Charting a Course in the Pursuit of Science

www.uwf.edu/chemistry

University Happenings

In the past few years, the University has seen some rather extensive changes.

These changes have been associated with the recent growth experienced University-wide. Student enrollment has climbed from 7535 in 1990 to 9265 in 2002. We have seen the construction of four new dormitory complexes with a fifth due to be finished this fall. The total on-campus student population is currently ~1250 students - roughly 14% of the total student enrollment. Several new instructional buildings have been constructed including the Physical Sciences Laboratory building (58A) constructed in 1998. The new building now houses all General Chemistry laboratories and four modern lecture rooms. Building 58 has also seen some major renovations over the last 5-7 years. The two Organic Chemistry laboratories are now "state-of-the art" with 20 individual hoods in each - no more complaints from the Biology Department about "smelling bananas" every semester. The Advanced Physical and Inorganic laboratories were given a



similar upgrade to an eight hood setup. A "new and improved" instrument room (it was expanded in size to ~1100 square feet) was also renovated which now houses most of the Chemistry Department's extensive collection of scientific instrumentation. Several new faculty research laboratories have enabled the new faculty members to establish active research programs.

University Happenings continued on page 7

Recent Departmental Changes

In addition to the building improvements and renovations, there have been many other changes in the facilities within the chemistry department. Dr. Leo Haar established the Chemical Science Simulation Laboratory (CSSL) which is equipped with a Silicon Graphic (SGI) Origin 2000 server and five SGI O2 workstations running MSI Cerius2 molecular modeling software. Students now have an opportunity to become well-trained in advanced computational chemistry under Dr. Leo Haar's direction. The CSSL is located in a glassed area directly across from the Chemistry Department Office. Many other instrument upgrades have been obtained in the past few years, including:

- Varian MercuryPlus 300 MHz NMR
- Thermoquest Trace 2000 GC-MS with a solids direct insertion probe
- Waters Gel Permeation Chromatograph and RI detector
- Varian Fluorimeter
- TA Instruments Dynamic Analyzer
- and a new Dionex HPLC

Recent Departmental Changes continued on page 7

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Chairman's Letter

Over the last few years, there have been significant changes in the chemistry department personnel and facilities. Chemistry alumni have been involved in many of these changes.

On the retirement of Ralph Birdwhistell in 1997, a new physical chemist Tim Royappa was hired. Tim teaches general chemistry as well as physical chemistry and has also added a new course to our curriculum, "Introduction to Polymer Science". Tim has won the College Distinguished Teaching Award on two different occasions.

In 1999 we were able to hire 1980 alumnus and Monsanto Award winner, Leo ter Haar. At UWF, Leo has established a Chemical Science Simulation Laboratory equipped with Silicon Graphics workstations. He has developed several new courses which include: "Molecular Modeling" "Computational Chemistry," and "Materials Chemistry and Engineering". These have added significantly to the variety of our offerings. Also in 1999, another chemistry graduate joined our department as lecturer in chemistry and Coordinator of Laboratories. Pamela Tanner will be known to many of you from her time as Stores Manager for our building. Since joining our department Pamela has written and assembled new laboratory manuals, developed new experiments, and significantly improved our lower division laboratory courses.

When Bill Halpern retired two years ago he was replaced by Mike Huggins, a 1996 graduate of our program and also a Monsanto Award winner. Mike teaches organic chemistry along with Jerry Gurst. He has been active in establishing a research laboratory and already has several undergraduate students working on a

variety of projects.

Clifford Chang retired this June, and Grace Chiu retires at the end of October. Both have been at UWF since 1968. Tara Sirvent has filled Cliff's position. Tara will be developing a course in chemical biology that all chemistry majors will take to meet the latest ACS biochemistry requirements. She will also start a research program in natural products chemistry. She brings to the department an expertise in biology and molecular biology techniques and provides interface between our department and the biology department.

Unfortunately, Grace Chiu had to take sick leave for the entire 2002-03 academic year. In her absence, Lois Dixon, a 1976 UWF graduate and Monsanto Award winner (PhD, University of Florida) and faculty member at P.J.C. taught the instrumental analysis course. As of this time, we have not yet been given authorization to begin a faculty search for an analytical chemist to take over from Grace. This is a major concern since instrumental

methods of analysis is a requirement for all ACS approved degree tracks.

Several other alumni have made significant contributions to our program. Martha Sarasua (1975, PhD, MD, University of North Carolina) teaches for us as adjunct instructor, Karen (Wink) Barnes (1980) and Mitch Bogle (2002) were responsible for the transfer of used but valuable equipment from their companies to our department and Larry Tucker (1978) arranged for his company (Brinkman Instruments) to donate a new titrator. We thank all of you who have made donations to the Chemistry Foundation Account. In another section we list the scholarship awardees for the 2002-03 academic year.

Two years ago the department established an Advisory Board to make recommendations on new directions and program improvements. The Board has met twice and has made many helpful suggestions. Larry Manziek (1969, PhD University of Florida) and Bob Andrews (1985, MD, University of South Alabama) are the alumni members of our Advisory Board. Our board also includes: Dr. Dale Poulter (University of Utah); Dr. Gene LeMay (University of Nevada, Reno); Dr. Sandra Etheridge (Gulf Coast Community College); Dr. Rufina Alamo (Florida State University); Dr. Alan Ford (Environmental Chemistry Division, ACS); Dr. Anthony Uriarte (Director of Research,

Solutia) and Mrs. Glenda Marshman (Washington High School).

With the hiring of new faculty, we have been able to make improvements in our program. As well as offering the new courses, described above, we have added two new degree tracks. The Chemistry/Pre-dental track was created by Bill Halpern shortly before his retirement. In this track students complete the first three years of our biochemistry program and then transfer to the College of Dentistry at the University of Florida. We also collaborate with the Biology Department in the Biological Chemistry MS program. Again students complete the first three years of our biochemistry program and then continue into the graduate program. At the end of 5 years students completing the program are awarded simultaneously the BS degree in Chemistry/Biochemistry and the MS in biological chemistry.

In these days of a declining budget and state support, our main strategic goals relate to maintaining faculty strength. Currently this means hiring an analytical chemist. Our lower division enrollment is growing significantly and we would like to hire a coordinator of the organic chemistry laboratories, a comparable position to Pam Tanner's position in general chemistry. With the initiation of the four year nursing program and other health science initiatives, we expect enrollment to continue to increase.

We are currently reviewing the chemistry curriculum and will consider the addition of new ACS approved tracks in polymer chemistry and environmental chemistry. We are actively encouraging more of our majors to participate in undergraduate research and to start as early as possible in their undergraduate programs. This year 20 students worked with faculty on research projects. We are also discussing the possibility of offering an honors degree option that requires research thesis.

With retirement of Bill Halpern, Cliff Chang and Grace Chiu and the hiring of new faculty, the department is changing. The newer members have better research facilities and equipment and are expected to be active in directing undergraduate research and in obtaining support for their research. In four years time, Jerry Gurst and I will be retiring and with this our department will complete the transition to an entirely new faculty.

UWF Students Hard at Work

Recent Graduate Information Class of 2002-2003

Sara Anastasio - Attending Graduate School in Material Science at University of Virginia

Daniel Bradley - Internship at Plasmine Technologies in Pensacola, FL

Jeremy Bosso - Employed with the Center for Environmental Diagnostics and Bioremediation at the University of West Florida

Hilaree Hudson - Applying to Medical School

Richard Hawthorne - Applying to Medical School

Elisha Josepha - Attending Graduate School in Chemistry at University of New Orleans

Joshua Lee - Attending Graduate School in Chemistry at Florida State University Mike LeVaugh - Applying to Physician's Assistant School

Randall McDaniel - Employed with the Center for Environmental Diagnostics and Bioremediation at the University of West Florida

Maria Morar - Attending Graduate School in Chemical Biology at Cornell University Tracy Marks - Employed as a chemist with the USDA in Tallahassee, FL

Brian Roberts - Attending Graduate School in Chemistry at Florida State University Roy Schleicher - Unknown

Philip Davies - Unknown Eric Uher - Unknown

Kwok Wong - Unknown

and Jennifer Gallagher

2003 Departmental Awards

Polymer Education Award in Organic Chemistry - Mandy Harrison Solutia Award - Brian Roberts and Maria

Merck Award - Richard Hawthorne Physical Chemistry Award - Dustin Dixon American Institute of Chemists Award -Sara Anastasio

CRC Award in General Chemistry - Ashley Moore and Janelle R. Wixwat Analytical Chemistry Award - Allan Turner Birdwhistell Scholarship - Brian Roberts Faculty Merit Scholarship - Maria Morar Chemistry Alumni Scholarships - Elisha

Josepha, Chris Griffey, Sara Anastasio,

2003 Awards



Dean Halonon and Dr. Tanner accept donation from Dr. Robert Peoples. Director of Carpet Sustainability and Business Development, Solutia, Inc.

Monsanto/Solutia Award Winners

1970 - Larry Manziek

1971 - H. Wayne Richardson

1972 - Richard W. Miller Irene H. Gerow

1976 -Lois A. Dixon Adelia R. Vagenas Thomas A Strickland

Allen D. Clauss 1977 -

1978 -Raymond N. Dominey

1979 - Alan K. Schrock

Leonard W. ter Haar 1980 -Kirk R. Birdwhistell

Deborah M. Dahlin 1982 -

1983 -M. Charlotte Davis Robert D. Mariani

1985 -Robert J. Taylor, Jr.

Lucille A. Combs 1986 -

Brandon J. Crickshank 1987 -

1988 -H. Thomas Etheridge, III

1989 -James Puckett, Jr.

1990 - Aaron P. Monte

1991 - Christopher T. Culbertson Ernest M. Schubert

1994 -Maria Luisa Jones

1995 -Mike A. Greci

Michael T. Huggins Loren M. Price 1996 -

1997 -

Benjamin S. Harrison 1998 -

2000 -Amy R. Meyers Thomas M. Austin, Jr.

2003 - Brian Roberts Maria Morar

Chemistry Student Research Activities

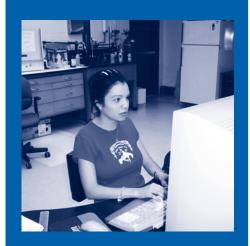
Dustin Dixon - Summer research at Boston College with Dr. Larry Scott

11 undergraduate students are actively participating in research projects with UWF Chemistry Department Faculty









Alumni News

From time to time, we get updates and news from many of our alumni, unfortunately not as many as we would like. Please drop us a line with any announcements that you would like to share with the department or other alumni. You can send us an email at chemistry@uwf.edu, stanner@uwf.edu or mhuggins@uwf.edu, and we will include your news in the next installment of the newsletter and post it on the Department's website. Here are the most recent tidbits from alumni.

John Morelli (Coaxsys, Chairman and Founder; B.S., UWF 1994)

Prior to founding Coaxsys, in 1998, John Morelli founded Nuron, a company that developed the ecommerce industry's fastest hardware encryption solution. Under John's leadership as President & CEO, Nuron was sold to Intel in February 2001. John holds a B.S. in Chemistry from the University of West Florida, and a M.S. in Theoretical Physical Chemistry from the University of Notre Dame.

Michael Summers (University of Maryland, Baltimore County, Professor; B.S. UWF, 1980)

From C&EN April 14th, 2003 - Science Concentrates

Molecules identified by researchers at the University of Maryland, Baltimore County, bind to a novel target in HIV, thus opening a new line of attack on AIDS. "These compounds disrupt the assembly of the HIV-1 capsid protein, which is a vital step in changing immature, noninfectious HIV into its mature, infectious form," says Michael F. Summers, UMBC professor of chemistry and Howard Hughes Medical Institute investigator.

Chris Culbertson (Kansas State University, Assistant Professor; B.S. UWF 1991)

Recently accepted a position as an Assistant Professor in Chemistry at Kansas State University after spending several years at Oak Ridge National Labs as a Research Scientist. His research interests are focused on developing novel separation and sample handling components for microfluidic (Lab-on-a-Chip) devices and then using these devices to solve interesting bioanalytical problems with special emphasis in the areas of protein separations (proteomics) and single cell analysis.

UWF Faculty Profiles



Peter Tanner, Professor and Chair of Chemistry Education B.S., University of Manchester M.S., University of Manchester PhD., University of Manchester University of West Florida since 1967

Personal Statement:

I continue to serve as the chair of the department and for the last three years I have been a member of the College Chairs Executive Council. I teach

Chemistry. In Dr. Chui's absence I have been teaching Analytical Chemistry.

For the last few years my research has been directed to determining the properties and applications of an ion-exchange material developed by NASA. I cooperate with scientists at NASA Glenn Research Center, Ohio, where I spent several summers on a faculty fellowship program.

In addition to serving on many university and college committees I coordinate the ACS National Chemistry Olympiad Competition for the Pensacola Section.

Clifford Chang

Education

B.S., University of Southern California PhD., University of Hawaii

University of West Florida since 1968

Personal Statement

After 34 years, professors Clifford Chang and Grace Chiu will retire from the chemistry faculty effective June 30, 2003. Both will hold the title of professor emeritus.

Dr. Chang remains active as a councilor in the American Chemical Society. He is a member of the Local Section Activities Committee (LSAC) and serves in the Technology, Tools, and General Chemistry and Inorganic Operations subcommittee. Within LSAC, he also chairs the Working Group of Senior Chemists.

> At the Southeastern Regional ACS Meeting to be held in November 2003 in Atlanta, Dr. Chang will chair the Senior (Retired ?) Chemist Symposium.

Grace Chiu, Professor Education B.S., East Texas Baptist College PhD., University of Minnesota University of West Florida since 1968 Specialization Analytical Chemistry

Chemistry Faculty Profiles

continued

Personal Statement:

Grace Chiu's 2002 summer vacation in Toronto was extended to the summer of 2003 due to surgery and follow-up treatments. She is feeling well and will retire later this year. She sends her best regards to all her former students.



Jerome E. Gurst, Professor Education A.B., Dartmouth College PhD., Stanford University University of West Florida since 1967

Specialization Organic Chemistry, Stereochemistry and Spectroscopy

Research Interests:

My interests in stereochemistry and spectroscopy have led to the publication of a book with my longtime collaborator, Professor D. A. Lightner of the University of Nevada, Reno. This

book, with the unwieldly title, *Organic Conformational Analysis* and *Stereochemistry from Circular Dichroism Spectroscopy*, was published in 2000 by Wiley/VCH.

Currently, I am working with Dr. Lightner and Dr. Huggins on the preparation of a manuscript to be published by Prentice-Hall. This will be a text containing about 250 sets of spectra (IR, Mass Spectra and NMR) for students to use as study materials. In fact, I will be on sabbatical leave during the Spring Term 2004 during which time, I will be obtaining lots of spectra using UWF's excellent facilities.

Teaching Interests:

I am still teaching Organic I, II and III along with the Experimental I course. Beginning this Fall, Dr. Huggins will join me and we will jointly teach Experimental I. I hope to turn the Organic III course over to him in the near future as well.

For the past few years, I have had the pleasure of working with one of our earliest graduates, Dana Nagle, as we plan a day of lectures and laboratory experiences for her students in the International Baccalaureate Program at Pensacola High School.

Personal Statement

While I miss the daily contact with Professors Birdwhistell, Chiu, Chang and Halpern that I have been so used to over the past 30–35 years, I am delighted to work with the newer staff members. Welcoming Mike Huggins back to UWF has been a pleasure and I look forward to working with our newest faculty member, Tara Sirvent, now that she is on campus.

I have begun to plan my exit from the scene. I am participating in the Deferred Retirement Option Plan which will lead to my retirement no later than December 2007.

Leonard ter Haar, Professor

Education

B.S., University of West Florida PhD., University of North Carolina - Chapel Hill University of West Florida since 2000

Personal Statement

This year"s teaching assignments brought a range of responsibilities and fun. General Chemistry and Intermediate Inorganic



were two stalwarts with excellent results as measured by student outcomes. AY 02/03 also marked the addition of two new courses, Molecular Modeling and Computational Chemistry, to the University Catalog. Development of these courses started in 2000 with the funding of the Chemical Sciences Simulations Laboratory (CSSL). Over forty-five students have already benefited from this new initiative in the curriculum. A third course, Materials Chemistry & Engineering, has been approved by the University and will appear

in next year's catalog; four '03 graduates enrolled in it and survived... kudos to all for having made it work and for giving my brain ideas on how to improve it for the next time! As a seniorlevel course, I hope it will bridge the gap between the academic approach of traditional courses and the needs of industry, i.e., issues of applied chemistry and engineering with a dose of reality..... timelines, mass & energy balance, materials selection, process scale-up, patents, technical communications and..... the bottom line. My research continues along the lines of novel inorganic materials. Four research students contributed to projects on the effects that stereochemical activity of "lone pairs" has on nanoscopic structure-property relationships. One of next year"s graduates, Michelle Hester, has played a vital role in the research and will become the Department's first graduate to complete a Chemistry research thesis in the University Honors Program. Elsewhere on campus, the Dean search, the Provost search, and numerous other committee assignments kept me off the streets..... or is it the boat? I have been asked to extend my term on the College of Arts & Sciences (CAS) Council, where I have been serving as vice-Chair. I agreed to begin serving as CAS Council Chair beginning July, when we celebrate the arrival of our new Dean. While I won't represent Chemistry per se (Peter does that) I look forward to representing and balancing the views and aspirations of the faculty in all CAS departments with the priorities, challenges, and responsibilities as determined by the Dean and the faculty. Above all though, the arrival of Fall '03 means it's my turn to teach P-Chem again, and that makes me happy! Hope our new crop of majors think so too.....



Michael T. Huggins, Assistant Professor Education

B.S. University of West Florida PhD., University of Nevada, Reno University of West Florida since 2002 Specialization Organic Chemistry, Molecular Recognition, and Spectroscopy Courses Taught Organic Chemistry I and II Experimental I and III

Research interests:

Currently, my research is focused on the study of weak interactions (hydrogen bonding, *pi-pi* stacking, etc) in small molecule model systems in so-

lution and the solid state as a method to control molecular recognition events. These efforts are primarily centered in two

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areas: synthesis and characterization of pyrrole-based anion receptors and preparation of pyridine N-oxides for the study of weak hydrogen bonds involving C-H groups. I am also involved in a collaborative research project with Dr. Phillip Ryals in the Biology department that is designed to prepare various phosphoinositol isomers.

Personal Statement:

It has been a great pleasure to "come home" and join the UWF faculty after having spent time here as an undergraduate student. Although, I must admit it was a little strange in the beginning to have colleagues that were once my professors and mentors.



Tim Royappa, Assistant Professor *Education*

B.S., Indiana University
PhD., Mass. Inst. of Technology
(MIT)

University of West Florida since 1996 Specialization Polymer and Physical Chemistry

Awards include: Phi Beta Kappa (1985) UWF Distinguished Tea

UWF Distinguished Teaching Award (1998, 2003)

Research Interests:

My research interests are mostly centered on the synthesis of novel functionalized polymers. I am currently attempting to make new hyperbranched polyethers by the cationic ring-opening polymerization of glycidol with other epoxide co-monomers. These polymers have uses in various coatings applications, ranging from chromatographic stationary phases to coagulation-resistant coatings for nanoparticles. I am also attempting to derivatize polyglycidol with different molecules of biological interest, such as amino acids, small (amino)sugars, peptides, enzymes and cytokines, to create new biomaterials for a variety of uses. I also have a small effort

Finally, in physical Chemistry, I have a side interest in the mathematical modeling of multivariable data sets, such as arise in paper-making and in empirical diatomic interaction potentials.

directed towards the discovery of new synthetic routes to self-doped conducting polymers, especially sulfonated polyanilines.



Tara Sirvent, Assistant Professor *Education*

B.S. Vanguard University PhD., Cornell University University of West Florida since 2003

Personal Statement

I am pleased to join the Department of Chemistry at UWF this fall! I completed my undergraduate education at Vanguard University in Costa Mesa, California where I majored in chemistry and biology before earning my doctorate at Cornell University in plant pathology. After complet-

ing my doctoral studies, I was awarded a National Science Foundation Postdoctoral Research Fellowship in Microbiology Biology and I joined the lab of Dr. Alice Churchill at the Boyce Thompson Institute for Plant Research in Ithaca, NY where I worked on isolating and characterizing natural products - particularly aromatic polyketides - from plant pathogenic fungi including *Cryphonectria parasitica*, the causal agent of the chestnut blight, and *Mycosphaerella fijiensis*, the causal agent of the black Sigatoka disease of bananas. I plan to continue working on aromatic polyketides at UWF, but I will focus on studying plant derived polyketides.

The hypericins are a family of red anthraquinones found in the dark glands that dot the leaf surface and margins of the medicinal plant St. John's wort, *Hypericum perforatum*. The family of hypericins is the major bioactive constituents of the herb and is most likely formed *via* the polyketide pathway. Hypericin has been at the forefront of many studies investigating anti-cancer, anti-depressive, anti-microbial activities and antiviral including efficacy against hepatitis C and HIV viruses. Polyketides are one of the largest classes of secondary metabolites in nature and are produced in pathways similar to fatty acid biosynthesis using enzymes called polyketide synthases that catalyze the initial steps of polyketide formation. The goal of my research is to determine the biosynthetic intermediates and key polyketide synthase(s) involved in the formation of hypericins in *H. perforatum*.



Pamela Tanner, Lecturer Education B.S., University of West Florida PhD., Vanderbilt University

University of West Florida since 2000

Teaching Duties General Chemistry Fundamentals of General Chemistry Concepts in Chemistry

Personal Statement:

We continue to improve our exceptional program with the help of excellent teaching assistants, adjuncts and preparation personnel. We now pre-

pare and distribute the lab manual entirely at UWF. This eliminates expensive separates and outside publishers. The result is a dynamic program that continuously incorporates new experiments. With the help of two students, Dodie Ryan and Jaclyn Pennington, Concepts in Chemistry Lab will conduct two "Real World Experiments" in the spring of 2004. One experiment introduces students to arson scene investigation. Another allows them to explore nickel allergies that result from contact with nickel in jewelry, clothing fasteners and body piercing.

She serves as Treasurer of the Pensacola Section of the American Chemical Society and as a member of the University of West Florida's Retention Committee. Both activities contribute to a packed house at departmental and ACS seminars. General chemistry students are offered a small amount of extra credit and a free lunch as an incentive to attend. These seminars allow students to mingle with professionals in a social venue and students continue to attend throughout the year.

She has been studying Italian and looks forward to practicing during her first trip to Europe in May. She is active in her church garden committee "The Lay Weeders." Learning about the local varieties of plants has extended the life of the land-scaping around her house.





West Florida

Staff

Diana Walker Title: Office Manager started in 1984. BA Social Work

Jim Hammond
Title: Instrument Maker/Designer
started May 2003 (this was his started date for full time, before
that he was a part time employee)
Jim is a retired (20yrs) US Navy Engineer

Phil Conklin Title: Academic Coordinator 1973 - BS Marine Sciences started with chemistry in 1989

Kathleen Ferroizi

Title: Laboratory Stores Manager Started in Aug. 1997 1997, BS in Environmental Studies, Natural Science Option Masters Public Administration - Spring 2003

Don Hagan
Title: Laboratory Technician
started in Dec 2002
BS Environmental Studies

University Happenings from page 1

The summer of 2002 saw the induction of the University's Fourth President - Dr. John Cavanaugh. Since his arrival, President Cavanaugh has busily replacing administrators (Deans, Vice Presidents, and Provost) who have either retired or left for "greener pastures". At this point in the University's life cycle, many of the original faculty hires have been slowly retiring in the last several years, especially those who chose to participate in the State's DROP program. In fact, Dr. Tanner and Dr. Gurst are the last two remaining "Original Hires" left as active faculty members at UWF - 37 years of service to UWF and counting!!!

As a result of a state reorganization, university governance was transferred to a local board of trustees in 2001. During a recent University organizational shake-up at UWF, the College of Science and Technology combined with the College of Arts and Social Science to form a new College of Arts and Sciences. The college of Arts and Sciences has also recently found a new leader, the new Dean of the College of Arts and Sciences; Dr. Jane Halonen started her duties in mid-July of 2003.

Recent Departmental Happenings from page 1

The Department has also seen substantial changes in the faculty as well, five new faculty members over the last seven years and if all goes well at least three more slated for the next five years. Faculty members are now expected to have active research programs. During the 2002-2003 academic year, 19 students participated in undergraduate research with faculty members in the chemistry department. We hope to see this number continue to rise! Currently, there are exciting research opportunities available for student participation in polymer science, organic chemistry, analytical-inorganic chemistry, and computational chemistry, with natural product chemistry and biochemistry coming soon. In addition, there are several ongoing collaborative research projects between faculty members in the Chemistry Department and faculty members in the Biology Department at UWF. These efforts greatly add to the diversity of research at UWF. In the future, we hope to see all areas of research continue to grow and prosper. There are several Department projects in the works that we hope will encourage and facilitate participation in undergraduate research, including:

- Establish departmental research awards/scholarships
- Establish Honors Chemistry Degree with research thesis
- Create faculty research awards to offset research related expenses
- Continued upgrades and improvements to the chemistry instrumentation
- Building a new chemistry/science building (DREAMING!)
- and many more...

As you might expect, much of these efforts are awaiting the proper financial support before implementation. With continued (ongoing) support from private sources such as our alumni, and chemical industry, in addition to public sources such as NSF, NIH, ACS PRF and other state and federal agencies, we hope to see all of these goals, and many more, met in the very near future.

Contributions to the Department

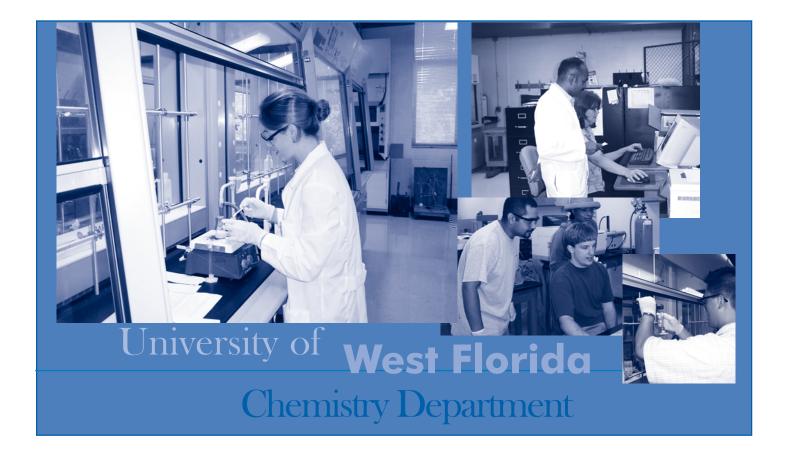
The Department of Chemistry has enjoyed a long history of extremely generous support from our alumni, probably more so than any other department on campus. Recently, we have had several donations of scientific instruments and equipment that have been invaluable in enhancing the education offered to our students. Currently, the department has the following areas where alumni donations are being put to use:

Department of Chemistry Alumni Scholarships Instrument Acquisitions The Ralph Birdwhistell Scholarship Endowment



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